

What is claimed is:

- 1 1. A system, comprising:
 - 2 a first voltage regulator having a supply input
 - 3 coupled to a first supply voltage, an enable input and a
 - 4 supply output, the first voltage regulator selectively
 - 5 providing at the supply output up to a first predetermined
 - 6 current level at a regulated voltage based upon the first
 - 7 supply voltage when enabled and providing substantially no
 - 8 current when disabled;
 - 9 compare circuitry having an input coupled to a
 - 10 first supply voltage and an output coupled to the enable
 - 11 input of the first voltage regulator and having a value
 - 12 indicative of whether the first supply voltage is greater
 - 13 than a predetermined voltage level; and
 - 14 circuitry having a supply input coupled to the
 - 15 supply output of the first voltage regulator.

- 1 2. The system of claim 1, further comprising a second
- 2 voltage regulator having a supply input coupled to a second
- 3 supply voltage when enabled and a supply output, the second
- 4 voltage regulator selectively providing at the supply output

5 thereof up to a second predetermined current level at a
6 regulated voltage based upon the second supply voltage, the
7 supply output of the first voltage regulator being coupled
8 to the supply output of the second voltage regulator.

1 3. The system of claim 2, wherein the supply input of
2 the first voltage regulator is coupled to the supply input
3 of the second voltage regulator.

1 4. The system of claim 2, wherein the supply input of
2 the first voltage regulator and the supply input of the
3 second voltage regulator are coupled to an external power
4 supply.

1 5. The system of claim 4, wherein the supply input of
2 the second voltage regulator is coupled to the external power
3 supply and a battery.

1 6. The system of claim 2, wherein the regulated
2 voltage provided by the second voltage regulator is less than

3 the regulated voltage provided by the first voltage
4 regulator.

1 7. The system of claim 1, wherein the first voltage
2 regulator comprises a first transistor having a first
3 conduction terminal coupled to the supply input thereof, a
4 second conduction terminal coupled to the supply output of
5 the first voltage regulator and a control terminal, the
6 transistor providing to the supply output of the first
7 voltage regulator the first predetermined current level.

1 8. The system of claim 7, further comprising biasing
2 circuitry coupled to a control terminal of the first
3 transistor, wherein the first transistor operates in a
4 saturation mode of operation when enabled.

1 9. The system of claim 7, wherein the first voltage
2 regulator further comprises a second transistor having a
3 first conduction terminal coupled to the supply input of the
4 first voltage regulator, a control terminal coupled to the

CUSTOMER NO. 30430

PATENT APPLICATION
Docket No. 03-C-006

5 output of the compare circuitry and a second conduction
6 terminal coupled to the control terminal of the first
7 transistor

1 10. The system of claim 1, further comprising a
2 transistor having a first conduction terminal coupled to a
3 battery, a second conduction terminal coupled to the supply
4 input of the circuitry and a control terminal coupled to the
5 output of the compare circuitry.

1 11. The system of claim 1, wherein the circuitry
2 comprises a volatile memory.

1 12. A method for providing a supply voltage to a
2 circuit, comprising:
3 receiving a first supply voltage;
4 comparing the first supply voltage to a
5 predetermined voltage level; and
6 selectively enabling a regulator circuit based upon
7 the comparison, the regulator circuit providing up to a first
8 predetermined current level at a first regulated voltage to
9 the circuit when enabled, the first regulated voltage being
10 based upon the first supply voltage.

1 13. The method of claim 12, further comprising
2 selectively coupling a battery to the circuit based upon the
3 comparison.

1 14. The method of claim 13, further comprising
2 regulating the voltage provided by the battery to generate
3 a second regulated voltage, and supplying the second
4 regulated voltage to the circuit.

1 15. The method of claim 14, wherein the second
2 regulated voltage is less than the first regulated voltage.

1 16. A device, comprising:
2 a first voltage regulator having a supply input,
3 an enable input and a supply output, the first voltage
4 regulator receiving a supply voltage at the supply input and
5 providing at the supply output a regulated voltage at up to
6 a first predetermined current level when enabled and
7 providing substantially no current when disabled.

1 17. The device of claim 16, wherein the first regulator
2 comprises a first transistor having a first conduction
3 terminal coupled to the supply input thereof, a second
4 conduction terminal coupled to the supply output of the first
5 voltage regulator and a control terminal, the transistor
6 providing to the supply output of the first voltage regulator
7 up to the first predetermined current level.

1 18. The device of claim 17, further comprising biasing
2 circuitry coupled to the control terminal of the first

3 transistor for providing a predetermined biased voltage
4 thereto, wherein the first transistor operates in a
5 saturation mode of operation when activated.

1 19. The device of claim 17, wherein the first voltage
2 regulator further comprises a second transistor having a
3 first conduction terminal coupled to the supply input of the
4 first voltage regulator, a control terminal coupled to the
5 enable input and a second conduction terminal coupled to the
6 control terminal of the first transistor.

1 20. The device of claim 16, further comprising a second
2 voltage regulator having a supply input and a supply output,
3 the second voltage regulator selectively providing at the
4 supply output thereof up to a second predetermined current
5 level at a regulated voltage, the supply output of the first
6 voltage regulator being coupled to the supply output of the
7 second voltage regulator.

1 21. The device of claim 20, wherein the supply input
2 of the first voltage regulator is coupled to the supply input
3 of the second voltage regulator.

1 22. The device of claim 20, wherein the supply input
2 of the first voltage regulator and the supply input of the
3 second voltage regulator are coupled to an external power
4 supply.

1 23. The device of claim 20, wherein the supply input
2 of the second voltage regulator is coupled to the external
3 power supply and a battery.

1 24. The device of claim 20, wherein the regulated
2 voltage provided by the second voltage regulator is less than
3 the regulated voltage provided by the first voltage
4 regulator.

1 25. The device of claim 16, further comprising a
2 compare circuit having an input adapted to be coupled to a
3 voltage supply, for generating a signal at an output of the

4 compare circuit having a value indicative of the voltage
5 appearing at the input being greater than a predetermined
6 reference voltage, the output of the compare circuit being
7 coupled to the enable input of the first voltage regulator.

1 26. The device of claim 25, further comprising a
2 transistor having a first conduction terminal coupled adapted
3 to be coupled to a battery, a second conduction terminal
4 coupled to the output of the first voltage regulator and a
5 control terminal coupled to the output of the compare
6 circuit.

1 27. The device of claim 16, further comprising a
2 volatile memory having a supply input coupled to the output
3 of the first voltage regulator.